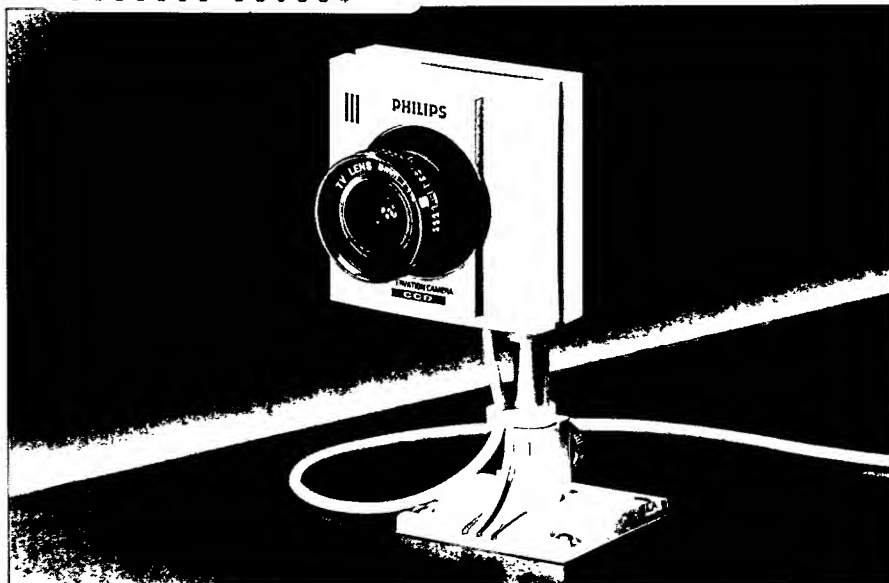


Philips Consumer Electronics



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VCM8161/00T-/01T



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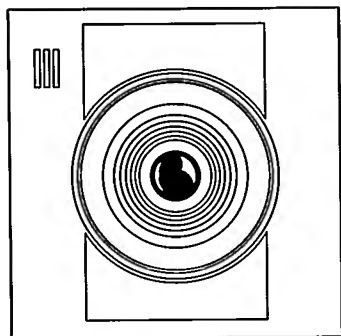


Fig. 1

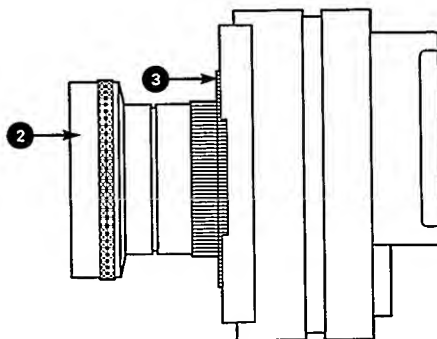


Fig. 3

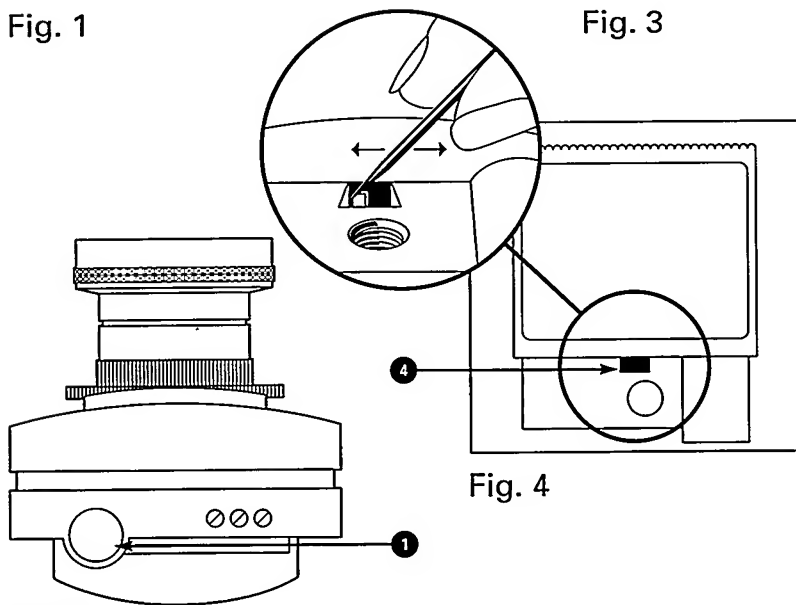


Fig. 2

Fig. 4



# Monochrome CCD observation camera VCM8161/00T-/01T

The illustrations referred to in this manual are printed on the insides of the two fold-out cover pages.

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The complete camera pack contains the following components:

- One CCD camera
- One C/CS adapter ring
- One 8 mm, F 1.3 lens
- One adjustable mounting bracket
- One coaxial connection cable (10 metres/33 ft)
- Extra plugs to extend or shorten the connection cable
- Screws and mounting plugs
- One user manual

## ENGLISH

### Introduction

Your new CCD camera is specially developed for use with a special observation system monitor. It features a sensitive microphone thus registering both images and sound via the monitor.

### Connecting the camera

#### The power supply

The power for the camera is supplied by the monitor, via the coaxial cable. It means that the selected camera is switched on automatically when you switch your monitor on.

#### The video output

A standard coaxial connection cable (10 metres /33 feet) is supplied with your camera. The cable is fitted with a male, 75 Ohm coaxial plug on one end and a male cinch plug on the other. The cinch plug (fig. 6) fits the connection socket of the camera (fig. 2 - 1).

The default channel setting of the camera is for channel 3. If you do not get an optimum image, check whether the channel switch on the rear of the monitor is set for the same channel. You can change the channel setting of the camera too, if necessary (e.g. when you get interference from a strong, local TV station). You will find the switch

in a recess on the back of the camera (fig. 4-4). You can change its setting by sliding it with the help of a sharp pencil or toothpick.

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## The connection cable

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The connection cable supplied with the camera has a length of 10 metres (33 feet). If the distance between camera and monitor happens to be shorter or longer, you can easily make a special cable, using a standard coaxial cable (available at your dealer's) and the extra coaxial plugs supplied with your camera (fig. 7). You can actually cover a distance of 100 metres (330 feet) or more, depending on the quality of the cable you are using.

---

## Changing the length of the cable

---

If the distance is shorter than 10 metres (33 feet) and the extra length bothers you, you can shorten the cable. Measure the required length, starting from the cinch plug (fig. 6) to make sure that the cinch plug is included with the shorter cable you are making. Do not make the cable too tight but allow a little leeway. Then mount the male coaxial plug (fig. 7) at the other end.

If the distance between camera and monitor is larger than the length of the connection cable, you can make an extension cable, using both separate plugs supplied with this set (fig. 7) and the required length of a good quality coaxial cable (75 Ohm), available at any TV store. If you want to bridge a longer distance, you

should use a special cable extension set with RF booster amplifier, which will allow a distance from camera to monitor of up to 600 metres (1800 feet).

---

## The lens

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Your camera is equipped with a standard CS lens mount and supplied complete with an 8 mm, F 1.3 lens with a viewing angle of 34° horizontally and 26° vertically. The lens has a C-mount thread and is fitted with a C/CS adapter ring. It means that you can actually use anyone of a wide range of both C-mount and CS-mount lenses with either a fixed iris or manual iris. When choosing a C-mount lens, you should use the C/CS adapter ring. Automatic iris lenses cannot be used.

When using a lens with manual iris adjustment, you should, in principle, set it at its largest aperture.

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## Using a different lens

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The CCD sensor in the camera head is very sensitive to dust. If you ever remove the lens from the camera you should always point the camera downward to minimize possible deposit of dust. Never touch the sensor and/or use any cleaning materials. Only use clean, dry air to blow any particles from the surface of the sensor. Special aerosol air-spray cans are available at any good camera store.

You may want to use a lens with a different focal

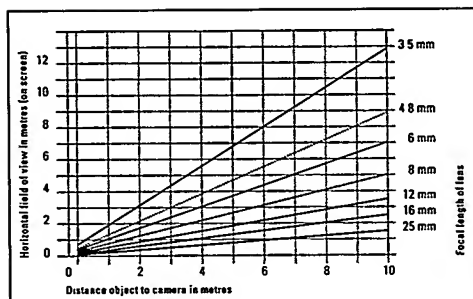
length and thus a different angle of view than the 8 mm F 1.3 lens, supplied with your camera. You will find useful information in the following table and diagram to help you make the best choice.

The choice of the lens may affect the illumination range of your camera. Consult the table below to see which type of lens you require for your particular application.

To ensure a good picture quality you should use a lens with an F-value (maximum aperture) of at least F 4, preferably better.

F-value of lens	Illumination range (lux)		
	Nominal	Minimum	Maximum
0.95	18	1	13,000
1.2	29	1.5	21,000
1.3	34	1.7	25,000
1.4	39	2	28,000
1.6	51	2.5	36,000
1.8	64	3.5	46,000
2.0	80	4	57,000
2.8	156	8	100,000

The diagram in the next column will help you select the focal length, required to cover the object or area you want monitored; it shows the width of the scene visible on the screen with lenses of different focal lengths at given distances (camera to object). You can extend the scope of the diagram by simply multiplying the values at both axes with "x"



#### Example:

If the distance camera to object is 21 metres: simply multiply the value distance camera to object for 7 metres with 3. Next multiply the width of the scene, reproduced on the monitor screen by 3 also.

#### Focus adjustment

For optimal picture sharpness, the CS-mount adjustment ring at the front of the camera has been pre-adjusted in the factory to standard CS-mount back focus distance. Re-adjustment of the back focus distance may however be necessary when the back focus distance for a particular lens differs slightly from that of the standard lens, supplied with the camera.

Set the focussing ring of the lens to infinity (this does not apply when you have a fixed focus lens).

- Aim the camera at an object which is at least 15 metres (45 feet) away.

- Loosen the back focus locking ring (fig. 3-3) at the front of the camera, by turning it anti-clockwise.
- Turn the lens, including the CS-mount, until the video picture is in focus.
- Tighten the back focus locking ring again (fig. 3-3), keeping the lens in place.

#### **Warning:**

Do not touch the surface of the lens . This could damage the delicate coating on the surface of the lens.

If the lens has to be cleaned, use special lens cleaning tissue, available at any good camera store.

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### **Installing the camera**

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It is advisable to install the camera first and connect it to the system monitor on the spot. It will allow you to properly aim the camera at the area you want covered while checking the results on the monitor (see below). When satisfied you can place the monitor in its permanent position.

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### **The mounting bracket**

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- First determine where you want to install the camera.
- Hold the camera in your hand at the spot where you want to install it, while checking on the monitor whether it does indeed cover the

proper area from that position.

- Fasten the mounting bracket to ceiling, wall or any other flat and solid surface. Use the screws and plastic mounting plugs when fastening the mounting bracket on a plastered surface.
- Tighten the ball joint control knob (fig 5 - 7).
- Attach the camera to the bracket by turning the mounting socket in the back of the camera (fig 5 - 5) onto the threaded end of the mounting bracket (fig 5 - 6) .
- Loosen the two knurled knobs on the mounting bracket (fig. 5 - 7 and 5 - 9) and carefully aim the camera at the object or area you want monitored.
- Tighten both knobs again to secure the camera in position.

#### **Note:**

The camera can also be mounted on any camera tripod with standard 1/4" Whitworth thread.



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## Maintenance tips

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Your observation camera will require a minimum of maintenance, just observe the following rules:

**Cleaning.** You may clean the exterior of the camera with a damp and lint-free cloth or chamois.

**Cleaning the lens.** Use special lens cleaning tissue (available at any good camera store) to clean the lens, if necessary. Do NOT use any cleaning liquids containing alcohol, spirits, ammonia, etc.

**Moisture.** Direct contact with moisture should be avoided.

**Outdoor use.** For outdoor applications you should use a protective housing to shield the camera from rain and snow.

**The following accessories are optionally available via your dealer:**

- Protective camera housing (VCM1151) for conditional outdoor use.
- A cable extension set with RF booster amplifier (VSS2900) to cover distances from camera to system monitor of up to 600 metres (1800 feet)

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## Technical specifications

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Image pick-up device	1/3" CCD
Scanning system	CCIR, 625 lines, interlaced
Output signal	RF video and Audio VHF-I switchable between channels 3 and 4 (external switch) VCM8161/00T: CCIR-B VCM8161/01T: CCIR-I
Lens mount	Standard CS-mount with C/CS adapter ring
Lens	8 mm, F 1.3
Illumination range	2 to 25,000 lux (50 ire/-6dB) 1 to 25,000 lux (acceptable picture)
Mounting socket	1/4" Whitworth
Connection cable	75 Ohm coaxial cable with cinch (RCA) and coaxial (Euro) plug
Input voltage	12 V DC, supplied by the system monitor, via the coaxial cable
Power consumption	1.3 Watt
Audio	Built-in electret microphone

### Ambient conditions:

Temperature	
in operation:	-20°C to +55°C
in storage:	-25°C to +70°C
Relative humidity	
in operation:	20% to 90%
in storage:	up to 90%
Dimensions:	
without lens	70 x 70 x 45 mm
with standard lens	70 x 70 x 71 mm
Weight (Incl. lens)	190 gr.

These specifications are subject to change without notice.



Fig. 5

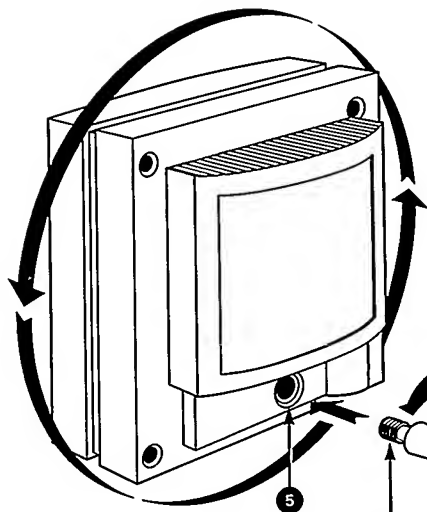


Fig. 6

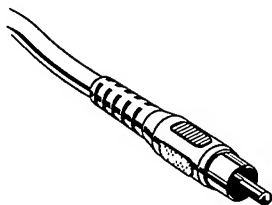
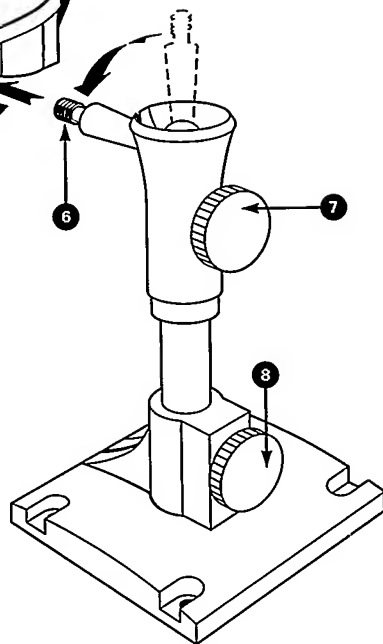
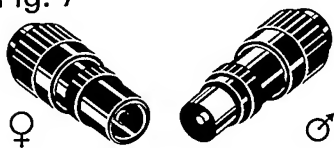
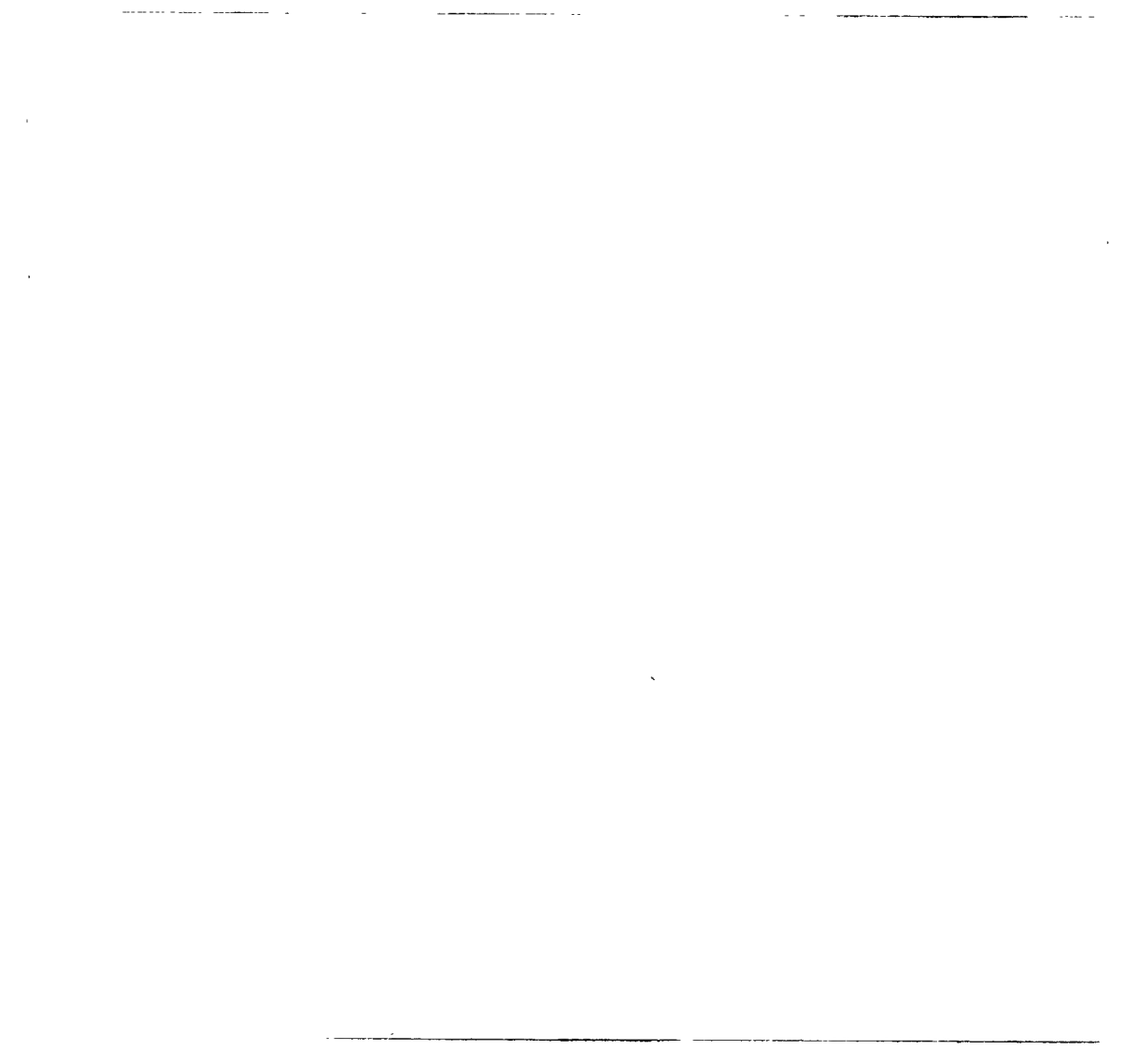


Fig. 7





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